ABSTRACT OF THE DISCLOSURE

Disclosed herein are apparatus and methods for measuring error associated with the rotation of bearings (50) used within a pointing device (11) on board a space-based platform. The apparatus includes inductive, or "eddy current," proximity sensors (1000) adapted for measuring the positioning of bearing components. The apparatus also includes processing capabilities (1010) for receiving data from the proximity sensors (1000), and producing compensation data. The compensation data is used in one of various techniques for correcting errors in the angular measurement or pointing of the device (11). The techniques disclosed herein include conducting an initial calibration of the proximity sensors (1000) and generating calibration data. Once in active use, sensor measurements are combined with calibration data to produce compensation data. Ongoing measurements may be used to update the calibration data as necessary.